

**Remarks/Arguments:**

**Claim Rejections Under 35 U.S.C. §102 and §103**

Claims 1-6 and 15-22 stand rejected under 35 U.S.C. §102 as anticipated by U.S. Patent No. 5,498,302 (Davidson). Claims 1-6 and 15-22 are herein cancelled and the rejection thereof is now moot.

Claims 7-14 stand rejected under 35 U.S.C. §103 as unpatentable over Davidson. Applicants traverse this rejection.

"To establish a *prima facie* case of obviousness, ... the prior art reference (or references when combined) must teach or suggest all the claim limitations." M.P.E.P. §2143. Additionally, as set forth by the Supreme Court in *KSR Int'l Co. v. Teleflex, Inc.*, No. 04-1350 (U.S. Apr. 30, 2007), it is necessary to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the prior art elements in the manner claimed.

Independent claim 7 recites a "wear-resistant titanium alloy orthopedic device, wherein said device has a core hardness of at least 28 HRC and a substantially increased near surface hardness at least 0.0005 inches beneath a surface of the device." Dependent claim 8 further recites "said near surface hardness is at least 50 HRC."

The Office Action indicates that Davidson teaches at column 2, line 47 through column 3, line 16 that "the implants device's surface hardness would exceed 50 HRC for titanium alloys, the alloys would typically have a hardness (including the core) prior to treatment of up to 40 HRC, and the increased surface hardness would extend to levels of 50 microns or more . . . which overlaps the surface hardness depth and hardness of the instant invention. . . ."

Applicants respectfully submit that the cited portion of Davidson is explaining various characteristics of standard nitriding, oxidizing and carbonizing treatments. There is no teaching that any one of these treatments would produce all of the characteristics in a single device. Furthermore, these standard processes are specifically described as unacceptable by Davidson.

Contrary to these random characteristics from various treatments, Davidson does provide specific characteristics for devices of Davidson's invention in Table 3. As illustrated in Table 3, the highest bulk hardness (core hardness) for one of the titanium alloys is 280 Knoop, which is equivalent to 25 HRC, below the claimed core hardness of at least 28 HRC. Examining the remaining characteristics, this device was treated at 800 °C for 20 hours with a resultant surface hardness of 375 Knoop, which is equivalent to 37 HRC. As for surface hardness, the highest surface hardness was for a device treated for 100 hours with a resultant surface

hardness of 425, which is equivalent to 42 HRC, well below the recited surface hardness of 50 HRC.

None of the titanium alloy devices treated in accordance with the Davidson treatment has a core hardness greater than 25 HRC or a surface hardness greater than 42HRC. Of note, the surface hardness of 42 HRC was the result of treatment for 100 hours which is the maximum treatment time disclosed by Davidson. (see col. 7, lines 65-66).

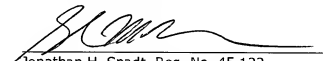
Neither Davidson or any of the other cited references recognized the availability of the wear-resistant titanium alloy orthopedic device developed by the present inventors.

It is respectfully submitted that independent claim 7 is in condition for allowance. Claims 8-14 each depend from claim 7 and therefore each should each be allowed for at least the reasons set forth above.

It is respectfully submitted that each of the pending claims is in condition for allowance. Early reconsideration and allowance of each of the pending claims are respectfully requested.

If the Examiner believes an interview, either personal or telephonic, will advance the prosecution of this matter, it is respectfully requested that the Examiner get in contact with the undersigned to arrange the same.

Respectfully submitted,



Jonathan H. Spadt, Reg. No. 45,122  
Glenn M. Massina, Reg. No. 40,081  
Attorneys for Applicants

JHS/GMM/

Dated: October 30, 2007

☒ P.O. Box 980  
Valley Forge, PA 19482  
(610) 407-0700

☐ P.O. Box 1596  
Wilmington, DE 19899  
(302) 778-2500